

COUNTRY ANALYSIS BRIEFS

Thailand

Last Updated: February 2006

General Background

Thailand's economic growth slowed in 2005, Thailand's economy has slowed substantially over the past year, with real GDP growth falling to 4.5 percent for 2005, down from 6.1 percent in 2004. The effect of the December 2004 tsunami on the tourism sector and the **partially due to high oil prices.** impact of high oil prices both contributed to the slowing of economic growth. Increased demand for Thai exports, as well as increases in domestic spending by the Thai government on infrastructure projects strengthened growth somewhat in the second half of the year. Real GDP growth for 2006 is projected at 4.9 percent. Longer-term annual growth rates are projected in the range of 5-6 percent.



The Thai economy is burdened by a relatively weak banking sector with a high proportion of non-performing loans. Delays in the restructuring of corporate debt also have been worrisome enough to prompt warnings from the

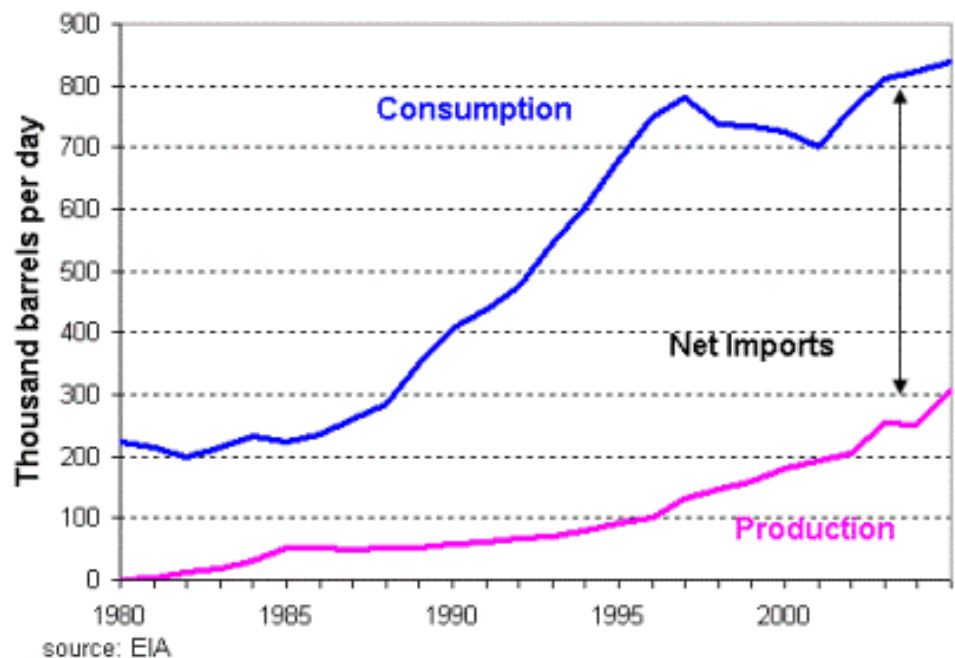
International Monetary Fund (IMF) and international credit rating analysts. Any worldwide economic downturn could rapidly affect Thailand due to these structural weaknesses.

Thailand's energy sector is undergoing a period of restructuring and privatization. The Thai electric utility and petroleum industries, which historically have been state-controlled monopolies, are currently being restructured.

Oil

Thailand completely eliminated consumption subsidies for petroleum products in 2005. Thailand contains 291 million barrels of proven oil reserves. In 2005, Thailand produced 306,000 barrels per day (bbl/d) of oil, an increase of about 54,000 bbl/d from the previous year. Of that production, only about 114,000 bbl/d was crude oil. Most of the remainder was natural gas liquids (NGLs) and lease condensate. Oil consumption in 2005 was 838,000 bbl/d, up from 823,000 bbl/d in 2004. Demand growth in Thailand has slowed somewhat since 2003, largely as a result of increasing substitution of natural gas in electricity generation and increased use of ethanol in motor fuels.

Thailand's Oil Production and Consumption, 1980-2005



The oil industry in Thailand is dominated by PTT, formerly the Petroleum Authority of Thailand. PTT Exploration and Production (PTTEP) is the main upstream subsidiary of PTT. Thai Oil, the country's largest refiner, is also controlled by PTT. The company underwent a partial privatization in November 2001, in which 32 percent of its equity was sold through the Bangkok Stock Exchange. The Thai government still owns a 68 percent stake in PTT, and does not plan to sell its controlling interest in the near future.

Despite the industry's financial problems, there have been a number of significant recent Thai oil discoveries, most notably offshore in the Gulf of Thailand. ChevronTexaco is investing heavily in developing Block B8/32 in the Gulf of Thailand. ChevronTexaco also reported a new find in July 2004 in Block G4/43, which is adjacent to B8/32. ChevronTexaco also acquired significant assets in Thailand as a result of their acquisition of Unocal in August 2005. Unocal had been investing in offshore oilfield development, and reported a significant new find in October 2000. Unocal's production in the Gulf of Thailand had reached 40,000 bbl/d by mid-2005. Seven new exploration blocks, including both onshore and offshore acreage, were awarded in May 2003 as a result of the most recent licensing round. Companies receiving exploration rights included ChevronTexaco and China's CNPC.

Refining/Downstream

Thailand has four oil refineries, with a combined capacity of 703,100 bbl/d. The three main refineries are Shell Co. Of Thailand Ltd. (275,000 bbl/d) located in Rayong, Thai Oil Co. Ltd., in Sriracha (192,850 bbl/d), and Esso Standard Thailand Ltd. (173,500 bbl/d), also located in Sriracha.

The Thai government has been discussing a proposal to attempt to turn the country into a regional processing and transportation hub for the oil industry. One possibility would be amending regulations to create a bonded-processing zone for export-oriented refineries. The targeted export market would likely be cities in south-central China, which are closer to Thai ports than to the Pacific coast of China. Another proposal would see the construction of a pipeline across the isthmus of Kra, allowing oil shipments from the Persian Gulf to East Asia to bypass the congested Strait of Malacca, possibly with the addition of an export-oriented 500,000 bbl/d refinery at the pipeline's Gulf of Thailand terminal. A feasibility study completed by PTT in July 2004, however, cast doubt on the financial viability of the project, and attacks on government facilities in the area in 2005 have increased security concerns.

Thailand also plans to reduce its consumption of petroleum and imports of gasoline additive methyl tertiary butyl ether (MTBE) in the future by promoting domestic production and consumption of ethanol. The Thai government approved a package of tax incentives in December 2000 to encourage more production of ethanol for fuel use, and gasoline containing 10% ethanol is scheduled was introduced in the greater Bangkok area in late 2005.

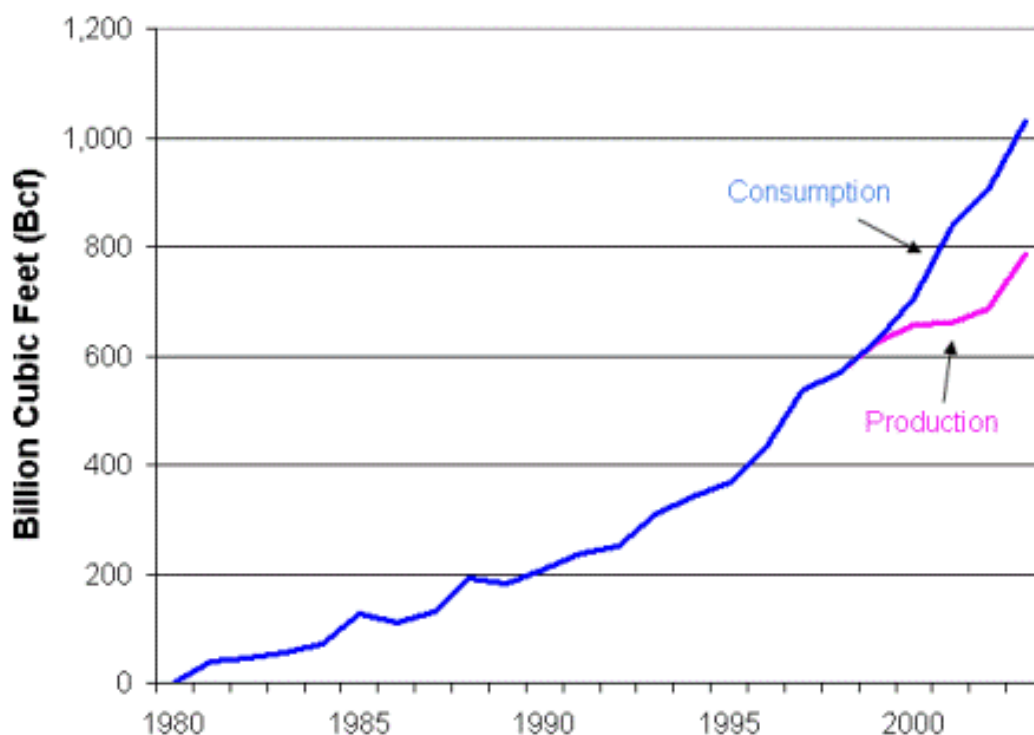
Natural Gas

Thailand will begin taking deliveries of natural gas from the Joint Development Area (JDA) with Malaysia in 2006. Thailand contains about 14.8 trillion cubic feet (Tcf) of proven natural gas reserves, of which it produced 787 billion cubic feet (Bcf) in 2003. The country consumed 1,029 Bcf in 2003, including imports from Burma. Much of the country's natural gas is used for generating electricity. In 2001, Thailand completed its program for the conversion of almost all oil-fired electric power plants to natural gas. Demand for natural gas is expected to rise at a 5-6 percent annual rate over the next five years, which represents a substantial revision downward from previous official 2006 estimates. Bongkot is Thailand's largest gas field, located 400 miles south of Bangkok in the Gulf of Thailand.

Thailand began imports of gas from Burma in late 2000, used mainly at the Ratchaburi power plant. PTT also is in the process of building an extensive natural gas distribution network around Bangkok, which will provide fuel for power plants as well as large industrial consumers.

Thailand's economic difficulties in 1997-1998, which reduced natural gas demand, along with rising domestic production, forced the country to re-examine two natural gas deals signed with Oman and Indonesia. Planned imports of liquefied natural gas (LNG) from Oman and piped natural gas from Indonesia's Natuna gas fields, for which preliminary agreements had been signed in the mid-1990's, were delayed. Development of Thailand's domestic natural gas resources and the imports from Burma are expected to cover anticipated Thai demand for the next several years, though LNG remains a long-term option for Thailand. Thai officials held preliminary discussions in 2004 with Omani and Iranian officials about possible future LNG projects.

Thailand's Natural Gas Production and Consumption, 1980-2003



source: EIA

1980

1985

1990

1995

2000

source: EIA

ChevronTexaco, which acquired Unocal in August 2005, is by far the country's largest natural gas producer, and has continued to increase its production with the development of new reserves. The Pailin gas field, which came onstream in August 1999, added 165 million cubic feet per day (MMcf/d) to Thailand's gas production. Unocal also started production at the Trat field in 1999. Unocal undertook a second phase of development at its Pailin field, beginning in 2002, which brought production to around 330 MMcf/d.

ChevronTexaco is currently producing about 145 MMcf/d from its offshore Block B8/32. The company has put its estimated gas reserves in the block at 2.5 Tcf, and has plans to expand production in the future to about 250 MMcf/d. Amerada Hess reported a new onshore natural gas find in northeastern Thailand in early 2003, which currently is under development. The company expects to begin production from the Phu Horm field in 2006.

The \$1 billion, 416-mile Thai-Burmese natural gas pipeline, running from Burma's Yadana gas field in the Andaman Sea to an Electricity Generating Authority of Thailand (EGAT) power plant in Ratchaburi province, was completed in mid-1999. A new connecting line also has been built linking Ratchaburi to the Bangkok area, which provides for other uses for imported Burmese gas in addition to the Ratchaburi power plant.

Joint Development Area

One of Thailand's most active areas for gas exploration is the Malaysian-Thailand Joint Development Area (JDA) located in the southern part of the Gulf of Thailand, and governed by the Malaysia-Thailand Joint Authority (MTJA). The JDA covers blocks A-18 and B-17 to C-19. A 50:50 partnership between Petronas Carigali and Triton Energy Ltd. (now a subsidiary of Amerada Hess) is developing the Cakerwala field in block A-18, while PTTEP and Petronas Carigali also share equal interests in the remaining blocks. An agreement was signed in October 1999 for sales of gas from the block to PTT and Petronas. PTT has agreed to purchase 390 MMcf/d of gas over 10 years from the Cakerawala field, the first JDA field to come on stream, beginning in 2006. Cakerawala contains estimated reserves of 2 Tcf. A sales agreement for natural gas from the other blocks was signed in June 2005, with deliveries to Thailand of 270 MMcf/d beginning in 2008.

As the project has moved forward, however, it has become controversial in Thailand. The pipeline is to come ashore in Songkla province in Thailand with a connection overland to Malaysia. Strong opposition to the project developed in 2000 among residents of Songkla, who have voiced concerns about the environmental impact of the project. The Thai government announced a decision in May 2002 to proceed with construction of the pipeline, but on a slightly different route, which avoids local population centers.

Other Pipeline Options

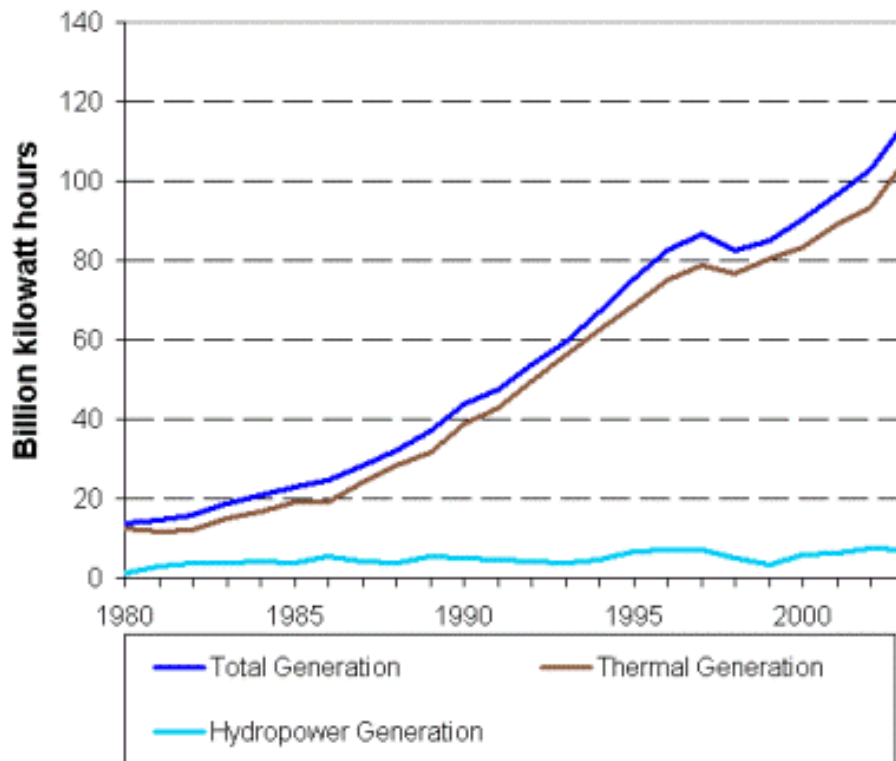
Two other possible international natural gas pipeline options also are under study. Officials from PTT have held preliminary discussions with Vietnamese officials about possible supply of natural gas from the Tay Nam field in Gulf of Thailand via a pipeline into Vietnam's main industrial center, Ho Chi Minh City. Talks also have been held with Burma and India about a possible pipeline interconnection between the three countries.

Electricity

A bidding round for new generating capacity is planned for late 2006. Thailand had 24 gigawatts (GW) of power generation capacity as of January 2003, from which it produced approximately 115 billion kilowatt-hours (Bkwh) of electricity. The decline of the Thai economy as a result of the Asian financial crisis resulted in a decline in domestic demand for electricity of about 3 Bkwh in 1998, before rebounding in 1999. This situation compelled EGAT, the state-owned electricity company, to revise its electricity demand projections. EGAT postponed or delayed a number of projects including: delaying the commissioning of the third and fourth 300-MW thermal units of the Ratchaburi power complex by three years to 2004 and 2005, respectively; postponing the start-up of the second 300-MW thermal unit at the Krabi power plant from 2001 to 2005; and delaying power purchases from three Laotian projects - the lignite-fired Hongsa project and the Nam Ngum 1-2 hydro projects to 2004 and 2005, respectively. While demand growth has recovered in step with Thailand's economic growth over the last five years, EGAT decided to lower its planned generating capacity reserve from 25% to 15%, which further delayed the need for additional generating capacity. Now that the country has worked through most of the backlog of projects approved before the financial crisis, several major new power generation projects are again being planned.

Thailand's Electricity Generation, 1980-2003

Thailand's Electricity Generation, 1980-2003



source: EIA

The Ratchaburi power plant, Thailand's largest power project, has moved forward despite the slowdown in power demand growth. The complex eventually will have a capacity of 3,200 MW, including 1,800 MW in six combined cycle gas-fired generators and 1,400 MW in two conventional thermal units that can burn either natural gas or fuel oil. The first combined-cycle unit began operation in January 2000. Ownership of the plant was transferred from EGAT to Ratchaburi Electric Generation in October 2000, and a successful initial public offering of stock was carried out. One other independent power producer (IPP) also began operation in August 2000, Tri Energy, which has a 700-MW plant at Ratchaburi. The company is owned by a consortium including Edison Mission Energy, ChevronTexaco, and local Thai firms.

Several prospective new power projects were approved in 2004. Thai Oil is planning a 1,400 MW gas-fired plant at Sri Racha, adjacent to its existing refinery. It will sell the power generated to EGAT, beginning in 2008. EGAT is planning four new 700-MW plants of its own, two near Bangkok, one in Chachoengsao province in the north, and one to be located in the south near Songkla. These new plants are to begin operation between 2006 and 2009.

A bidding round for additional generating capacity is planned for late 2006, with projects approved to come online between 2011 and 2015. A total of around 13 GW is to be added during that period, based on current demand forecasts. EGAT will build half of the new capacity, with the other half awarded to IPPs.

The Thai government has stated that it plans to eventually privatize EGAT, but it is still studying the options for structuring the privatization process. The previous privatization scheme was abandoned in March 2004 after labor union protests.

Profile

Country Overview

Chief of State	King Bhumibol Adulyadej
Head of Government	Prime Minister Thaksin Shinawatra
Location	Southeastern Asia, bordering the Andaman Sea and the Gulf of Thailand, southeast of Burma
Population (2005E)	65,444,371
Languages	Thai, English (secondary), ethnic and regional dialects
Religion	Buddhist 94.6%, Muslim 4.6%, Christian 0.7%, other 0.1% (2000 census)
Ethnic Group(s)	Thai 75%, Chinese 14%, other 11%

Economic Overview

Minister of Commerce	Somkid Jatusripitak
Currency/Exchange Rate (1/17/2006)	US\$1 = Bt39.8
Inflation Rate (2005E)	4.8%
Gross Domestic Product (GDP, 2005E)	\$178.6 billion
Real GDP Growth Rate (2005E)	4.5%
Unemployment Rate (2005E)	2.4%
External Debt (2005E)	\$51.0 billion
Exports (2005E)	\$110.3 billion
Exports - Commodities	textiles and footwear, fishery products, rice, rubber, jewelry, automobiles, computers and electrical appliances
Exports - Partners (2004E)	US 15.9%, Japan 13.9%, China 7.3%, Singapore 7.2%, Malaysia 5.4%, Hong Kong 5.1%
Imports (2005E)	\$105.7 billion
Imports - Commodities	capital goods, intermediate goods and raw materials, consumer goods, fuels
Imports - Partners (2004E)	Japan 23.6%, China 8.6%, US 7.6%, Malaysia 5.8%, Singapore 4.4%, Taiwan 4.1%
Current Account Balance (2005E)	-\$2.6 billion

Energy Overview

Minister of Energy	Viset Chooipiban
Proven Oil Reserves (January 1, 2005E)	0.6 billion barrels
Oil Production (2005E)	296.9 thousand barrels per day, of which 38% was crude oil.
Oil Consumption (2005E)	838.4 thousand barrels per day
Crude Oil Distillation Capacity (2006E)	703.1 thousand barrels per day
Proven Natural Gas Reserves (January 1, 2005E)	13.3 trillion cubic feet
Natural Gas Production (2003E)	0.8 trillion cubic feet
Natural Gas Consumption (2003E)	1,029.4 billion cubic feet
Recoverable Coal Reserves (2003E)	1,492.5 million short tons
Coal Production (2003E)	20.7 million short tons
Coal Consumption (2003E)	26.4 million short tons
Electricity Installed Capacity (2003E)	24.2 gigawatts
Electricity Production (2003E)	114.7 billion kilowatt hours
Electricity Consumption (2003E)	107.3 billion kilowatt hours
Total Energy Consumption (2003E)	3.1 quadrillion Btus*, of which Oil (53%), Natural Gas (33%), Coal (12%), Hydroelectricity (2%), Other Renewables (1%), Nuclear (0%)
Total Per Capita Energy Consumption (2003E)	49.7 million Btus
Energy Intensity (2003E)	7,020.1 Btu per \$2000-PPP**

Environmental Overview

Energy-Related Carbon Dioxide Emissions (2003E)	195.2 million metric tons, of which Oil (55%), Natural Gas (27%), Coal (17%)
Per-Capita, Energy-Related Carbon Dioxide Emissions (2003E)	3.1 metric tons
Carbon Dioxide Intensity (2003E)	0.4 Metric tons per thousand \$2000-PPP**
Environmental Issues	air pollution from vehicle emissions; water pollution from organic and factory wastes; deforestation; soil erosion; wildlife populations threatened by illegal hunting
Major Environmental Agreements	party to: Biodiversity, Climate Change, Climate Change-Kyoto Protocol, Desertification, Endangered Species, Hazardous Wastes, Marine Life Conservation, Ozone Layer Protection, Tropical Timber 83, Tropical Timber 94, Wetlands signed, but not ratified: Law of the Sea

Oil and Gas Industry

Foreign Company Involvement	ChevronTexaco, Shell
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Major Refineries (capacity, bbl/d)

Shell Company of Thailand (275,000); Thai Oil Co. Ltd (192,850); Esso
Standard Thailand Ltd. (173,500); Petroleum Authority of Thailand (61,750)

* The total energy consumption statistic includes petroleum, dry natural gas, coal, net hydro, nuclear, geothermal, solar, wind, wood and waste electric power. The renewable energy consumption statistic is based on International Energy Agency (IEA) data and includes hydropower, solar, wind, tide, geothermal, solid biomass and animal products, biomass gas and liquids, industrial and municipal wastes. Sectoral shares of energy consumption and carbon emissions are also based on IEA data.

**GDP figures from OECD estimates based on purchasing power parity (PPP) exchange rates.

Links

EIA Links

[EIA - Country Information on Thailand](#)

U.S. Government

[CIA World Factbook - Thailand](#)

[U.S. Department of Energy - Office of Fossil Energy - Thailand](#)

[U.S. State Department Consular Information Sheet - Thailand](#)

[U.S. State Department Country Commercial Guide - Thailand](#)

[U.S. State Department Background Notes on Thailand](#)

[Library of Congress Country Study on Thailand](#)

[State of Hawaii Country Profiles](#)

Thai Sites

[Office of the Prime Minister](#)

[Parliament of Thailand](#)

[National Energy Policy Office, Office of the Prime Minister](#)

[Electricity Generating Authority of Thailand](#)

[National Energy Policy Office \(NEPO\), Thailand](#)

[Ministry of Science, Technology, and Environment](#)

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U.S. Energy Information Administration

U.S. Department of State

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